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BACKING PLATE FOR ABRASIVE FLAP WHEELS

The invention relates to a backing plate for abrasive flap wheels, having an inner part with a location hole for a shaft of a driving machine and an outer flange for abrasive flaps to be adhesively bonded in place.

For a long time there have been backing plates for abrasive flap wheels which are made of a fiber material impregnated with plastic and in which sheet-metal reinforcement is provided around the location hole. These relatively thin backing plates are put onto the shaft, provided with a thread, of a driving machine and screwed tight with a nut. The same type of fastening also exists in abrasive flap wheels in which the backing plates are made of injection molded plastic. In this case, too, only a location hole is provided in the inner part, so that fastening to the machine by means of a nut is necessary.

Such a type of fastening is time-consuming, since, when a wheel is changed, the nut has to be slackened and unscrewed, the new wheel has to be put on and the nut has to be screwed on again. In addition, there is the risk of the nut falling down or of even being lost, which considerably further increases the time needed.

The object of the invention is to design a backing plate for abrasive flap wheels of the type specified further above in such a way that a quick and nonetheless reliable means of fastening the abrasive flap wheels to the driving machine is possible.

According to the invention, this object is achieved in a backing plate for abrasive flap wheels of the type explained at the beginning in that the inner

part is formed with a hub which has an internal thread for the shaft, provided with a thread, of the driving machine.

On account of this design, it is possible to screw the abrasive flap wheel in a simple manner onto the shaft, provided with a thread, of the driving machine without locking having to be carried out with an additional nut. The intended direction of rotation of the driving machine runs in such a way as to tighten the abrasive flap wheel upon coming into working engagement with a workpiece. On the other hand, on account of the relatively large diameter of the abrasive flap wheel, it is possible to slacken said abrasive flap wheel by hand without requiring a tool, which was necessary during the fastening by means of the nut.

In an advantageous development of the invention, provision is made for the hub to be designed so as to project beyond the sunk surface of the backing plate and to have a length which essentially corresponds to the distance between the surface of the outer flange and the surface of the sunk inner part.

In order to achieve a reliable fastening, it is advantageous if the internal thread extends over the entire length of the hub. In this case, it is advantageous if the internal thread has at least three thread turns.

The invention is explained in more detail below with reference to an exemplary embodiment shown in the drawing, in which:

Figure 1 shows a section through an abrasive flap wheel according to the invention; and

Figure 2 shows an abrasive flap wheel in section in combination with a driving machine.

The abrasive flap wheel 1 shown in section in the drawing has a backing plate 2 which comprises a sunk inner part 3 and an outer flange 4. Abrasive flaps 6

are in each case arranged in a partly overlapping form on the front side 5 of the outer flange, as is typical of abrasive flap wheels of this type. The abrasive flaps 6 are fastened by adhesive bonding. The sunk inner part 3 has a hub 7 which projects toward the front side 3a, i.e. toward the side of the abrasive flaps, and is provided with a location hole 8 and an internal thread 9. A step-like recess 11 is provided on the rear side 10 of the inner part 3.

As can be seen from figure 2, a driving machine 12 has a shaft 13 with an external thread 14. Furthermore, a driver plate 15, which is provided in driving machines of this type for the various abrasive wheels, is put onto the shaft 13. In accordance with figure 2, the abrasive flap wheel 1 is screwed onto the shaft 13, the internal thread 9 of the hub 7 of the abrasive flap wheel 1 interacting with the external thread 14 of the shaft 13. In the process, the rear side 10 of the inner part 3 comes to bear on the driver plate 15, a step 16 of this driver plate engaging in the recess 11 of the backing plate 2 in order to ensure reliable centering of the abrasive flap wheel 1 on the shaft 13 of the driving machine 12. The hub 7 has a length projecting beyond the surface 3a of the inner part 3, this length corresponding to the distance 17 between the surface 3a of the inner part 3 and the front side 5 of the outer flange 4. Thus the hub 7, in combination with the wall thickness of the inner part 3 of the backing plate 2, is long enough and is provided with sufficient thread turns in order to be firmly screwed onto the shaft 13 of the driving machine 12.